Direct Methenylation of 4-Alkylpyridines Using Eschenmoser’s Salt

G. N. Shivers, S. L. Tun, S. L. McLean, F. C. Pigge

One-pot • Metal-free • Open to air
• R = aryl, alkyl, heteroatom • 20 Examples • Up to 96% yield
Catalytic Asymmetric [3+3] Cycloaddition of Activated Isocyanides with Azomethine Imines

- High yields
- Good to excellent stereoselectivities
- Wide substrate scope
- Simple procedure
- Late-stage functionalization of complex bioactive molecules

5 mol% Ag$_2$CO$_3$
10 mol% $L^*$

$R^1 = \text{aryl, heteroaryl, alkyl}$
$R^2 = \text{H, aryl, heteroaryl, alkyl}$
$R^3 = \text{H, Me}$
$\text{EWG} = \text{phosphine oxide, phosphonate, ester, amide}$

THF, 25 $^\circ$C, 48 h

kinetic resolution
$k = 34-525$

Translation of a Phosphine- and Azide-Based Reaction to Chemical Modification of Biomolecules in Ionic Liquid

- Ionic liquid
- $R = \text{biomolecule}$
- Peptide/protein
- DNA
- Saccharide

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Synthetic Tools that Enable Synthesis and Understanding of Bioactive Macrocycles

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Unlocking Electrophilic N-Aryl Intermediates from Aryl Azides, Nitroarenes, and Aryl Amines in Cyclization–Migration Reactions

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Direct Methenylation of 4-Alkylpyridines Using Eschenmoser’s Salt
Synthetic and Mechanistic Investigation of an Unexpected Intramolecular 1-5 Nitrogen to Carbon Tosyl Migration

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α-Metalated Isocyanides Toward a Tangible Reagent Space

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Oxone-Promoted Cyclization/Hydrolysis of 1,5-Enenitriles Initiated via Direct C(sp^3)-H Oxidative Functionalization: Access to Pyrrolidine-2,4-diones

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**Letter**

### Stereoselective Synthesis of (Z)-1,2-Bis(arylsulfanyl)ethenes with Calcium Carbide as a Solid Alkyne Source

Q. Wang  
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Z. Li*  
Northwest Normal University, P. R. of China

**Abstract**

Inexpensive and easy-to-handle alkyne source  
High stereoselectivity  
Wide functional-group tolerance  
Eighteen examples  
Extension to gram scale

**Scheme**

![Scheme](image_url)

R = H, Me, MeO, tBu, F, Cl, Br, CF3, etc.

**Keywords**

Stereoselective synthesis  
Calcium carbide  
Arylsulfanyl ethenes  
Alkyne source

---

**Letter**

### Heterogeneous Photocatalytic Radical Synthesis of Aryl Allyl Sulfones

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**Abstract**

**Scheme**

![Scheme](image_url)

15 examples, 57–81%

**Keywords**

Heterogeneous photocatalysis  
Radical coupling  
Aryl allyl sulfones  
DABCO(SO2)2

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**Letter**

### Synthesis of Dehydromuscone by an Alkene Metathesis Macrocyclization Reaction at 0.2 M Concentration

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E. Espinós-Ferri  
A. Leyva-Pérez*  
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**Abstract**

**Scheme**

![Scheme](image_url)

0.1 mol% catalyst  
0.2 M concentration

**Keywords**

Alkene metathesis  
Macrocyclization  
Dehydromuscone  
Industrial fragrance  
Avoiding starting macrocycles  
Key non-diluted macrocyclization reaction (0.2 M) with 0.1 mol% Grela's catalyst

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Free-Radical-Involved Trifluoromethylthiolation Cyclization of Alkenes To Access SCF₃-Substituted Indolo[2,1-a]isoquinolines

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Stereoselective Synthesis of Acyclic Skeleton of Boscartin A

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Rhodium(I)-Catalyzed [2+2+1]-Carbonylative Cycloaddition of Diynes with Anthracene α-Diketone as the Source of CO

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